

**REMARKS**

Reconsideration and withdrawal of the objections to and the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance.

**I. STATUS OF THE CLAIMS AND FORMAL MATTERS**

Claims 29-56 are now pending. Claims 29-56 have been added, and claims 1-28 have been cancelled, without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents.

No new matter is added.

It is submitted that these claims, as originally presented, are patentably distinct over the prior art cited by the Examiner, and that these claims are in full compliance with the requirements of 35 USC 112. Changes to the claims, as presented herein, are not made for the purpose of patentability within the meaning of 35 USC sections 101, 102, 103 or 112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicants are entitled. Support for the new claims is found throughout the specification and in the claims as originally presented.

**II. THE §112 REJECTIONS ARE OVERCOME**

Claims 1-28 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. The rejection is respectfully traversed.

Specifically, the use of the term “and/or” was rejected, as were incidents of improper antecedent basis.

The cancellation of claims 1-28 renders the rejection moot. However, as the new claims are based on original claims 1-28, care has been taken to correct any similar language in the new claims. Moreover, it is respectfully submitted and believed that the claims herewith are not narrower in scope than those previously pending such that no estoppel should arise from this paper.

Consequently, reconsideration and withdrawal of the rejections is respectfully requested.

**III. THE ART REJECTIONS ARE OVERCOME**

Claims 1-28 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Choy et al. (WO 97/21848) in view of Blackwell et al. (U.S. Patent No. 6,312,656). Applicants respectfully disagree. The rejection is respectfully traversed. The cited documents do not teach, suggest or motivate a skilled artisan to practice the instantly claimed invention.

Additionally, claims 1-28 have been cancelled, rendering the rejection moot. However, as new claims 29-56 are based on the original claims, the rejection is nonetheless addressed.

The instant invention is directed to, *inter alia*, methods of depositing material on a substrate, comprising the steps of delivering from a first outlet a stream of droplets of a precursor liquid towards a substrate; applying an electric field between the first outlet and the substrate; and delivering from a second outlet a flow of fuel about the stream of droplets such as to provide an annular flame combustion region between the first outlet and the substrate through which at least a portion of the stream of droplets passes before reaching the substrate, whereby the precursor liquid is chemically reacted, or decomposed, or chemically reacted and decomposed, to provide the deposited material.

In order to ground an obviousness rejection, there must be some teaching which would have provided the necessary incentive or motivation for modifying the reference's teaching. *In re Laskowski*, 12 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989); *In re Obukowitz*, 27 U.S.P.Q. 2d 1063 (B.P.A.I. 1993). Further, "obvious to try" is not the standard under 35 U.S.C. §103. *In re Fine*, 5 U.S.P.Q. 2d 1596, 1599 (Fed. Cir. 1988). And as stated by the Court in *In re Fritch*, 23 U.S.P.Q. 2d 1780, 1783-1784 (Fed. Cir. 1992): "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggests the desirability of the modification." Also, the Examiner is respectfully reminded that for the Section 103 rejection to be proper, both the suggestion of the claimed invention and the expectation of success must be founded in the prior art, and not Applicants' disclosure. *In re Dow*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988).

It is respectfully submitted that the combination of Choy et al. and Blackwell et al. do not amount to the present invention, i.e. Choy et al. and Blackwell et al. do not combine to provide methods of depositing material on a substrate, comprising the steps of delivering from a first outlet a stream of droplets of a precursor liquid towards a substrate; applying an electric field between the first outlet and the substrate; and delivering from a second outlet a flow of fuel

about the stream of droplets such as to provide an annular flame combustion region between the first outlet and the substrate through which at least a portion of the stream of droplets passes before reaching the substrate, whereby the precursor liquid is chemically reacted, or decomposed, or chemically reacted and decomposed, to provide the deposited material.

The Office Action states that Choy et al. does not show, "generating a flame from a burner coaxial with the droplet outlet," and that Blackwell et al. shows, "combustion processes and apparatus for atomized liquid reactants wherein atomization can be done electrostatically." Office Action at 3. Additionally, the Office Action continues that while Choy et al. does not show the claimed sequence of annual gas jets," Blackwell et al. shows the "use of inert shield gas between liquid precursor droplets and an outer, annular fuel gas jet." Office Action at 4.

It is respectfully submitted that the new claims of the present application now recite the requirement of an annular flame combustion region between the first outlet and the substrate.

While the Office Action is correct in stating that Blackwell et al. shows combustion processes, it is respectfully submitted that these combustion processes do not include the annular fuel gas jet alleged in the Office Action.

Rather, Blackwell et al. demonstrates the use of a single or multi-jet fuel source which gives rise to a single, continuous flame area. The Examiner is respectfully invited to review figures 2-4 of Blackwell et al., especially figure 4, which demonstrates that the burner (40) includes a number of concentric channels, but that the concentric channels provide a single, continuous flame area, not an annular flame combustion region as stated in the claims of the present invention. In fact, nowhere in either Choy et al. or Blackwell et al. is an annular flame combustion region taught or suggested.

Furthermore, there is no motivation to combine Choy et al. and Blackwell et al., nor is there any expectation of success found in these references.

Consequently, the rejections under 35 U.S.C. §103 are improper; reconsideration and withdrawal of the rejections is respectfully requested.

#### **REQUEST FOR INTERVIEW**

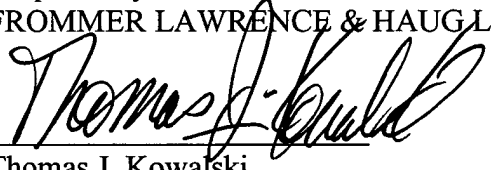
If any issue remains as an impediment to allowance, an interview with the Examiner is respectfully requested. The Examiner is respectfully requested to contact the undersigned to arrange a mutually convenient time and manner for such an interview.

CONCLUSION

In view of the remarks herewith and those of record, the application is in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance, or an interview at a very early date with a view to placing the application in condition for allowance, are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date.

Respectfully submitted,  
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